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UR 0533

AUTHORS-- KOVALEVA, M., PROFESSOR, AND KORYTOV, K., CANDIDATE
OF ECONOMIC SCIENCES

TITLE-- ERRONEOUS POSITIONS

NEWSPAPER-- SOTSIALISTICHESKAYA INDUSTRIYA, MARCH 5, 1970, P 2,
COLS 5-8

ABSTRACT-- THE ARTICLE IS A REVIEW OF THE "FORMS OF INDUSTRIAL
MANAGEMENT", A BOOK AUTHORED BY B. V. RAKITSKIY. ACCORDING TO THE
REVIEW, RAKITSKIY DOUBTS THE VALIDITY OF THE CENTRALIZED PLANNING IN
GENERAL, INASMUCH AS IT, IN HIS OPINION, IS INHERENT ONLY TO
"UNBALANCED", BACKWARD ECONOMY. UNDER THE PRESENT DAY CONDITIONS,
WRITES RAKITSKIY, "THE FUNCTION OF THE EXCHANGE CONTROL CEASES TO BE
THE FUNCTION OF SPECIAL CENTRAL AGENCIES". HE LOOKS UPON THEM ONLY
AS "ARBITERS". RAKITSKIY, CLAIMS THE REVIEW, ADVOCATES THE NEED FOR
COMPETITION BASED ON FREE CHOICE OF BUSINESS PARTNERS AND UNRESTRICTED
PRICES AT LEAST "WITHIN THE SPECIFIED RANGE".

IN CONCLUSION, THE AUTHORS OF THE REVIEW EXPRESS THEIR BEWILDERMENT
AS TO WHY THE PUBLISHING HOUSE "NAUKA" HAS PUBLISHED THE BOOK.

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19661718

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SW

UEC 616.12-008.331.1-036.4-085.831.2].4

USSR

KOVALEVA, M. P., Sverdlovsk Institute of Health Resort Medicine and Physical Therapy

"Role of Ultraviolet and Solar Radiation in the Comprehensive Treatment of the Initial Stages of Hypertension"

Moscow, Voprosy Kurortologii, Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, No 2, 1973, pp 116-118

Abstract: The great majority of 175 patients with stage I or stage IIA hypertension responded to a course of treatment including ultraviolet radiation (in the winter) or sun baths (in the summer), pine baths, and exercise as evidenced by a marked decrease in complaints of headache, pain in the heart, vertigo, dyspnea, irascibility, and insomnia. Blood pressure returned to normal in two-thirds of the stage I patients and in over one-half to almost two-thirds of the stage IIA patients. Treatment also had a beneficial effect on the main EKG parameters. It did not significantly alter blood cholesterol and β -lipoprotein levels when originally normal but lowered them appreciably in those suffering from hypercholesterolemia. Ultraviolet radiation decreased blood alkaline phosphatase activity, elevated blood phosphorus levels, and decreased skin sensitivity to UV rays.

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1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PURIFICATION AND USE OF WASTE WATERS FROM TEXTILE PLANTS IN
IRRIGATION -U-
AUTHOR-(02)-KOVALEVA, N.A., UTENKOVA, G.A.
COUNTRY OF INFO--USSR
SOURCE--TEKST. PROM. (MOSCOW) 1970, 30(3), 78-80
DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--WATER PURIFICATION, INDUSTRIAL WASTE, CROP IRRIGATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0411

STEP NO--UK/0342/70/080/003/0078/0080

CIRC ACCESSION NO--AP0122591

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20070

2/2 008

CIRC ACCESSION NO--AP0122591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURIFICATION OF WASTE WATERS FROM CERTAIN TEXTILE INDUSTRIES CAN BE CARRIED OUT BY USING IT IN THE IRRIGATION OF HAY CULTURES. THUS, THE TOTAL WASTE WATER PRODUCTION OF A PLANT, AMOUNTING TO 6500 M PRIME3-DAY, WAS DISTRIBUTED OVER AN AREA OF 320 HA. THE FEED WATER HAD AN AV. COMPN. (MG-L.) OF SUSPENDED MATTER 150-300, EVAPN. RESIDUE 450-700, N 80-130, HCD SUB3 PRIME NEGATIVE 100-240, CL PRIME NEGATIVE 70-100, SO SUB4 PRIME2NEGATIVE 120-140, CA PLUS MG 50-57, K SUB2 0 10-12, NA SUB2 0 100-140, P SUB2 0 SUB5 8-10, AND CR 0-1.6. THE PH WAS 7-8. THE DRAINED WATER HAD GREATLY IMPROVED PROPERTIES, E.G. BOO 3.0-4.0 (VS. 31.2) MG-L. COLITITER 2-6 (VS. 0.4), AND IT WAS COMPLETELY FREE OF COLOR AND ODOR. FACILITY: TSENT. NAUCH. ISSLED. STA. SEL'SKOKHOZ. ISPOLZ. STOCHNYKH VOD, KUPAVNA, USSR.

UNCLASSIFIED

USSR

UDC 621.382.2

AGEYEVA, L. A., KOVALEVA, N. K., and LOGINOVA, L. B.

"Production and Study of Planar Contacts in Gunn Diodes"

Izv. Leningr. elektrotekhn. in-ta (Bulletin of the Leningrad Electrical Engineering Institute), 1970, Issue 96, pp 60-63 (from RZh-Elektronika i yeye primeneniye, No 8, August 1971, Abstract No 8B134)

Translation: The results are presented of an experimental study of the resistance of contacts for coplanar Gunn-effect diodes. Alloys of AgSn, NiIn, and AgGeIn were used as material for the contacts. The resistance of GaAs contacts with an electron concentration of $\sim 10^{15} \text{ cm}^{-3}$ amounted to $\sim 5 \cdot 10^{-2} \text{ ohm.cm}^2$. A. Ye.

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Acc. Nr:

AP0036812

KOVALEVA N.S.

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PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 31-35

DYNAMICS OF DISCHARGE OF TYPHOID BACILLI IN CHRONIC CARRIERS IN DIFFERENT SEASONS OF THE YEAR AND ITS SIGNIFICANCE IN THE EPIDEMIOLOGY OF THE DISEASE

S. R. Khomik, Ya. M. Ferdinand, G. I. Skirda, N. S. Kovaleva, N. S. Solov'ev, K. I. Popova, I. P. Timoshkina, M. M. Shelkovich, B. A. Pilyaev, Apeykina, M. D.

The feces of forty five carriers of typhoid bacillus were examined in different seasons of the year. The greatest number of bacilli was discharged from January to May (0.1 to 960 million per gm of feces were the number of bacilli found throughout the year). Therefore, the authors recommend examination of carriers to be carried out mainly during the first half of the year.

There was established no association between the seasonal distribution of the incidence of the disease and the intensity of bacterial discharge.

D.V.

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REEL/FRAME

19721729

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CALLICREIN OF THE URINE AND SOME INDICES OF RENAL FUNCTION -U-
AUTHOR--(04)-NEKRASOVA, A.A., CHERNOVA, N.A., SHARAPOV, U.B., KOVALEVA,
N.T.
COUNTRY OF INFO--USSR
SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 12-16
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--KIDNEY FUNCTION, BLOOD CIRCULATION, PANCREAS, HORMONE,
ESTERASE, HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/2056 STEP NO--UR/0606/70/000/003/0012/0016
CIRC ACCESSION NO--AP0120699

UNCLASSIFIED

212 017

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120699

CIRC ACCESSION NO--AP0120649
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE 24 HOUR EXCRETION OF CALLICREIN WITH THE URINE OF 33 HEALTHY PERSONS AND 68 PATIENTS SUFFERING FROM VARIOUS CIRCULATORY DISTURBANCES OF THE KIDNEYS. CALLICREIN WAS ASSESSED BY DETERMINATION OF ITS ESTERASE ACTIVITY. THERE WAS FOUND A DIRECT RELATIONSHIP BETWEEN THE URINARY EXCRETION OF CALLICREIN AND THE EFFECTIVE RENAL BLOOD FLOW. CALLICREIN EXCRETION DID NOT DEPEND ON THE FILTRATION REABSORPTION FUNCTION. EXCRETION OF CALLICREIN BY THE KIDNEYS WAS REDUCED IN CASES WITH CONSIDERABLE CHANGE OF THE RENOGRAM. IN RENOVASCULAR HYPERTENSION URINARY EXCRETION OF CALLICREIN FELL IN CASES OF BILATERAL STENOSIS OF THE RENAL ARTERIES WITHOUT ADEQUATE DEVELOPMENT OF COLLATERAL CIRCULATION AND ALSO IN UNILATERAL STENOSIS, BUT WITH DISTURBED FUNCTION OF CONTRALATERAL KIDNEY. IT WAS FOUND IN EXPERIMENT ON 20 RABBITS WITH RENOVASCULAR HYPERTENSION THAT ISCHEMIC KIDNEY CONSIDERABLY REDUCED THE SECRETION OF CALLICREIN, WHEREAS THE INTACT KIDNEY INCREASED ITS EXCRETION COMPENSATORILY. FACILITY: INST. KARDIOLOGII IM. A. L. MYASNIKOVA AMN SSSR, MOSCOW.

USSR

UDC: 616.981.49-028.38

K
KOVALEVA, T.A., Pervomayskaya Hospital, Tula

"An Outbreak of Food Poisoning Caused by *S. dublin*"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970,
pp 131-133

Abstract: In June 1967, some 65 eighth graders who went to the country to assist farm workers developed food poisoning shortly after eating meat from diseased calf prepared under unsanitary conditions. All had an elevated temperature, headaches, and general weakness. Most complained of chills, nausea, vomiting, abdominal pain, anorexia, frequent liquid stools, and anorexia. *Salmonella dublin* was isolated from 16 of the patients. The micro-organism was also isolated from the sick calf's bone marrow and kidneys. All the cultures belonged to the same phage type. Gastric lavage was carried out in 17 patients while antibiotics (streptomycin combined with levogyrolin or tetracycline) were administered to 21 and only symptoms treated in others. The clinical symptoms disappeared from both those treated and those not treated with antibiotics at about the same time. All were discharged after 9-11 days in the hospital.

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USSR

UDC 576.858.5.095.383

SELIVANOV, A. A., KOVALEVA, T. P., AKSENOV, O. A., YURILOVA, T. I., LYSOV, V. V., KRYLOV, V. A., and SMORODINTSEV, A. A., All-Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Anti-Interference Effect of Adenoviruses"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 574-577

Abstract: Crude adenoviruses, serotype 1, 4, and 7 adenoviruses heated to 56°C for 30 min, and purified pentone antigen of serotype 4 suppress induction of interferon by influenza A2 Hong Kong Virus and inhibit interference between influenza A2 virus and vesicular stomatitis virus in chick embryo fibroblasts. Adenoviruses treated with trypsin, fibrantigen, and hexone-antigen no longer have this capacity. There is a good direct correlation between the cytotoxic, anti-interference, and anti-interferon-inducing capacities of the above-mentioned strains of adenoviruses. None of these strains stimulates reproduction of vesicular stomatitis virus. It is postulated that anti-interference is due not only to inhibition of interferon production but also to reduction of the activity of previously produced interferon.

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USSR

UDC 578.858.5.095/.097

KOVALEVA, T. P., YURLOVA, T. I., BOLDASOV, V. K., LYSOV, V. V., RUDENKO, L. G., AKSENOV, O. A., and SELIVANOV, A. A., All Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Biological Properties of Two Strains of Adenovirus Serotype 4"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 700-703

Abstract: A comparative study of normal and attenuated strains of adenovirus serotype 4 revealed a number of significant differences.. While at the optimum culture growth temperature of 37°C, both strains reproduce at the same rate, at 28°C the attenuated strain proliferates much faster and at 40°C much slower than the parent strain. While both strains are almost equally sensitive to human leukocytic interferon, the attenuated strain is significantly more sensitive to nonspecific thermolabile inhibitors, and has a much higher interferon-stimulating and interference activity and a much lower cytotoxic activity. After experimental inoculation of human subjects, both strains cause a rapid, fourfold increase in serum antibody concentration. However, the disease induced by the attenuated strain is considerably less severe and of shorter duration than that induced by the parent strain.

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UDC 547.558.1

USSR

FESHCHENKO, N. G., KOVALEVA, T. V., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences of the UkrSSR

"Iodides of Phosphorus. V. Chemical Properties of Aryldiiodophosphines and Diaryldiiodobiphosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 71, pp 287-290

Abstract: A study of the chemical properties of aryldiiodophosphines and diaryldiiodobiphosphines shows that both types of compounds react equally readily with electrophilic and nucleophilic agents. Diaryldiiodobiphosphines react with sulfur either producing compounds of a new type -- diaryldiiodobiphosphine disulfides -- or by breaking the P-P bond and forming dithiophosphonic acid anhydride, depending on the conditions under which the reaction is carried out. In boiling benzene, aryldiiodophosphines take up 2 gram-atoms of sulfur and eliminate a mole of iodine molecule. Aryltetraiodophosphorans appear to have the structure of aryltriiodophosphonium iodides. Diphenyldiiodobiphosphine reacts with piperidine with rupture of the P-P bond and formation of the dipiperidide of phenylphosphorous acid. When heated above 230°C, diaryldiiodophosphines decompose with the formation of aryldiiodophosphine and an arylphosphorus polymer.

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UDC 546.183

USSR

FESHCHENKO, N. G., GORBATENKO, Zh. T., KOVALEVA, T. V., and KIRSANOV, A. V.,
Institute of Organic Chemistry, Academy of Sciences of the USSR

"Iodides of Phosphorus. IV. Reaction of Phosphorus Triiodide With Organic
Sulfides and Tertiary Amines"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 284-287

Abstract: An investigation of the reaction between phosphorus triiodide, organic sulfides and tertiary amines shows that equilibrium conversion of the triiodide to the diiodide takes place when phosphorus triiodide is treated with dialkyl sulfides or thiophane. Because of their low basicity, dibenzyl sulfide and diphenyl sulfide do not convert the triiodide to the diiodide. When phosphorus triiodide reacts with tertiary amines, polymers with a low iodine content are formed. Treatment of the triiodide with pyridine produces the diiodide and a complex comprised of two molecules of pyridine and one molecule of phosphorus triiodide. Aryldiiodophosphines react with triethylamine in a 1:1 ratio to form an almost quantitative yield of diaryldiiodobiphosphines. Cyclic polyarylcyclopolyphosphines are produced by the reaction of aryldiiodophosphines and diaryldiiodobiphosphines with excess triethylamine.

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1/2 015
TITLE--DIALKYLAMIDOTETRAIODOPHOSPHORANES -U-

PROCESSING DATE--0200170

AUTHOR--(03)-FESHCHENKO, N.G., KOVALEVA, T.V., KIRSANOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--AM. JESSICH. KHIM. 1970, 40(2) 500 K

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IODINATED ORGANIC COMPOUND, ORGANIC PHOSPHORUS COMPOUND,
LITHIUM COMPOUND, ORGANIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1992/1971

STEP NO--UR/0079/70/046/002/0500/0500

CIRC ACCESSION NO--AP0112565

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02JCT70

2/2 015

CIRC ACCESSION N1--AP0112565

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. REACTION OF LII WITH R SUB2 NPCL

SUB2 GAVE NOT THE EXPECTED R SUB2 NPI SUB2, BUT PREVIOUSLY UNKNOWN P

SUB2 NPI SUB4 (R EQUALS ME, M. 121-20DEGREES; R EQUALS ET, M.

104-50DEGREES) ALONG WITH (R SUB2 NPI) SUB2 .6LICL, WHICH WERE YELLOW

SOLIDS, M. LARGER THAN 250DEGREES, SOL. ONLY IN H SUB2 O, AND SLOWLY

DECOMPD. IN MOIST AIR. IN C SUB6 H SUB6 THESE ADDED 1 OR 3 MOLES

100INF TO FORM EITHER UP TO 90PERCENT (R SUB2 NPI SUB2) SUB2 .3.ICL OR

67PERCENT (R SUB2 NPI SUB4) SUB2 .3LICL, WHICH ARE BROWN SOLIDS, M.

LARGER THAN 250DEGREES, AND DECOMPD. AND DISSOLVED IN H SUB2 O.

EVIDENTLY THE ORIGINAL REACTION OF 3R SUB2 NPCL SUB2 WITH 6 LII YIELDS 6

LICL AND 3R SUB2 N-PI SUB2, WHICH DISPROPORTIONATE INTO THE 2 PRODUCT

TYPES SHOWN OWING TO INCREASING NUCLEOPHILICITY OF P CAUSED BY THE R

SUB2 N GROUP. R SUB2 NPI SUB4 ARE ORANGE SOLIDS, SOL. IN CCL SUB4 AND

C SUB6 H SUB6 ARE EASILY HYDROLYZED IN MOIST AIR; THEY CAN BE TITRATED,

CONSUMING 5 EQUIVS. OF BASE.

UNCLASSIFIED

USSR

UDC: 546.185

FESHCHENKO, N. G., KOVALEVA, T. V., and KIRSAKOV, A. V., Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Dialkyl Amidotetraiodophosphorus Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, p 500

Abstract: Lithium iodide reacts with dialkylamidodichlorophosphines to give previously unknown dialkyl amidotetraiodophosphorus compounds and lithium chloride-tetraalkyldiamidodiiodobiphosphine complexes.

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UDC 616.988.25-022.395.42.036.2(571.62)

USSR

VERETA, L. A., OBUKHOV, G. D., KOVALEVA, Ye. I., SIKVORTSOVA, T. M.,
MOGILEV, V. Ye. VOROB'YEVA, R. N., NIKOLAYEVA, B. P., KUDAKOVA, T. M., and
ROSLYAKOV, G. Ye., Khabarovsk Scientific Research Institute of Epidemiology and
Microbiology, Khabarovsk

"Landscape-Epidemiological Subdivision of the Amur Territory With Respect to
Tick-Borne Encephalitis"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 42, No 1,
Jan/Feb 73, pp 28-32

Abstract: An evaluation of the danger of human infection with tick-borne encephalitis in territorial subdivisions of the Amur region differing with respect to natural characteristics has been carried out on the basis of a number of factors, principally the local density of Ixodid ticks. The index of probability of infection (a product of the ratio of persons who have visited forests by the ratio of those who observed the attachment of ticks by the ratio of ticks infected with the virus of the disease) based on data collected in 1969-71 was used as a criterion. Regions with a high incidence of the disease were located in the zone of coniferous-wide-leaved forests, those with a moderate incidence in the subzone of the southern tayga and in agriculturally developed areas in the zone of coniferous-wide-leaved forests, and those with

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VERETA, L. A., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 42, No 1, Jan/Feb 73, pp 28-32

a low incidence in the subzone of the middle tayga. Acute forms of the disease occurred both in regions with a high and a low incidence. The ratio of focal (meningoencephalitic) forms and the index of lethality, which corresponded to this ratio, showed some tendency of increasing from the south to the north.

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USSR

UIC 543.4:632.951

KOVALEVA, YE. S., and TALANOV, G. A., All Union Scientific Research Institute of Veterinary Sanitation

"Dynamics of the Residues of Diazinon, Metaphos, and Trichlorometaphos-3 in Feed Cultures"

Moscow, Khimiya v Sel'skom Khozyaistve, No 4, 1973, pp 34-37

Abstract: Treatment of clover, alfalfa, timothy grass, sugar beets, potatoes, corn, vetch, and oats with aqueous emulsions of diazinon, metaphos and TChM-3 (1.2 kg/hectare) showed that the least persistent residue was that of diazinon, metaphos residues being retained for longer periods, and TChM-3 being the most persistent agent. Ten days after the application, the level of diazinon was 0.4 mg/kg, metaphos - 2.2, and TChM-3 -- 12.5 mg/kg. Using gas chromatography, 40 days after the application 0.006-0.094 mg/kg levels of diazinon could be detected in all cultures; metaphos level 50 days after application was 0.01-0.014 mg/kg and TChM-3 levels after 60 days were 0.05-0.6 mg/kg. Diazinon residues were found in potato tubers and in sugar beet roots. Metaphos residues in the sugar beet roots were at the level of 0.01-0.174 mg/kg; they could not

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USSR

KOVALEVA, YE. S., and TALANOV, G. A., Khimiya v Sel'skom Khozyaistve, No 4, 1973, pp 34-37

be detected in the pulp of the beet and potato tubers. TChM-3 content in potato was from 0.006 to 0.16 mg/kg, in the skin of sugar beet root from 0.09 to 0.48 mg/kg, and in the tubers from 0.004 to 0.014 mg/kg. On the basis of these data a waiting period has been proposed of 10 days for diazinon, 40 days for TChM-3 and 60 days for metaphos between the last application and the harvesting time.

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1/2 009 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE EFFECT OF TEMPERATURE OF FERMENTATION ON THE PRODUCTION OF
HIGHER ALCOHOLS BY THE YEAST SACCHAROMYCES CARLSBERGENSIS -U-
AUTHOR--(04)-GRACHEVA, I.M., VESELOV, I.YA., GAVRILOVA, N.M., KOVALEVICH,
L.S.
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 322-326
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FERMENTATION, ALCOHOL, YEAST, SACCHAROMYCES, CARBOHYDRATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1408 STEP NO--UR/0220/70/039/002/0322/0326
CIRC ACCESSION NO--A00054271

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054271

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TEMPERATURE WAS FOUND TO BE AN IMPORTANT FACTOR IN THE PRODUCTION OF BY PRODUCTS BY SACCH. CARLSBERGENSIS XI DURING FERMENTATION, E.G. ON ACCUMULATION OF HIGHER ALCOHOLS, THE DEGREE OF CARBOHYDRATE FERMENTATION TO ETHANOL BEING ALMOST THE SAME. THE TOTAL CONCENTRATION OF HIGHER ALCOHOLS RISED 1.95 FOLD WHEN TEMPERATURE OF FERMENTATION WAS INCREASED FROM 20DEGREES TO 20DEGREES. THE FOLLOWING INCREASE OF TEMPERATURE UP TO 30DEGREES RESULTED IN A DECREASE OF HIGHER ALCOHOLS 3.6 FOLD, MAINLY AT THE ACCOUNT OF ISOAMYL ALCOHOL. THE ACCUMULATION OF ISOBUTYL AND N-PROPYL ALCOHOLS WAS NOT MUCH AFFECTED BY TEMPERATURE. THEIR MAXIMAL CONCENTRATION WAS REGISTERED AT 23 TO 25DEGREES.

UNCLASSIFIED

USSR

UDC: 532

KOVALEVS'KA, Ye. L.

"Concerning Application of the Method of Pseudopotentials to Calculation of the Resistivity of Molten Metals"

Visnyk L'viv. un-tu. Ser. fiz. (L'viv University Herald. Physics Series), 1971, vyp. 6(14), pp 53-56, 109 (from RZh-Fizika, No 6, Jun 72, Abstract No 6Ye155)

Translation: The method of pseudopotentials is applied to calculation of the resistivity of molten metals. Theoretical and experimental results are compared. Formulas are presented for calculating the resistivity of molten metals. The interference function $a(k)$ is determined from x-ray experiments. Theoretical and experimental data agree satisfactorily for the metals studied. Author's abstract.

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USSR

UDC 615.981.49-92.9-092-02:612.014.426

KATOLA, V. M., and KOVALEVSKAYA, A. N., Blagoveshchenskiy Medical Institute

"Dynamics of an Experimental Breslau Infection in Albino Mice Under the Influence of a Constant Magnetic Field"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10; Oct 1970, p 142

Translation: It has been reported that exposure to a variable magnetic field reduces the natural resistance of albino mice to *Listeria*. To determine the effects of a constant magnetic field on the course of the infectious process, we performed experiments on albino mice weighing 19-22 grams. The animals were divided into two experimental groups and one control group. The experimental mice were kept in a magnetic field produced by a permanent magnet with poles of 2,500 oe. The control animals were kept under the same conditions but outside the magnetic field. Mice of the first experimental series were enterally infected with a culture of Breslau salmonella and were immediately placed in the magnetic field. In the second experimental series, the animals were first kept in the magnetic field for 10 days and then infected. Control mice were infected at the same time. Each day,

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USSR

KATOLA, V. M., and KOVALEVSKAYA, A. N., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 1970, p 142

experimental and control animals were killed, and an Endo medium was inoculated with 0.1 ml of emulsions of mesenteric lymph nodes, spleen, liver, lungs, kidneys, and the content of the gastrointestinal tract. The isolated cultures were subjected to morphological, fermentative, and serological identification. A total of 360 mice were used in the investigation.

The first signs of disease appeared on the 4th day after infection in the control mice and 2 days later in the experimental mice. Parallel with this, the mesenteric lymph nodes were enlarged. Salmonella were obtained from the mesenteric nodes of the control mice 2 days after infection, while cultures prepared with the lymph nodes of the experimental animals yielded a growth on the 4th day. During that time, Salmonella were also obtained from other organs of the control group. The concentration of Salmonella per 100 mg of tissue in the experimental animals was 10 to 100 times less than in the control animals. On the 7th day after infection, no differences were observed in the infestation of the various organs. Blood cultures of the control mice displayed a growth on the 3rd day, and those of experimental mice on the 5th day after infection.

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USSR

KATOLA, V. M., and KOVALEVSKAYA, A. N., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 1970, p 142

Similar results were obtained in the second series of tests. The survival and death rates were identical in all groups of the experimental animals. The morphological, fermentative, and serological properties of Breslau Salmonella did not change.

Thus, exposure to a permanent magnetic field of 2,500 oe blocked the infection in mesenteric lymph nodes, resulting in a longer incubation period and a smaller proliferation of the Salmonella in the organs of the mice.

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1/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INTERBAND RADIATIVE AND IMPACT RECOMBINATION IN INDIUM PHOSPHIDE
-U-
AUTHOR-(03)-KOVALEVSKAYA, G.G., NASLEDOV, D.N., SLOBODCHIKOV, S.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(4), 780-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--REACTION MECHANISM, RADIATION EFFECT, THERMAL EFFECT, INDIUM
COMPOUND, PHOSPHIDE, RADIATIVE RECOMBINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1448

STEP NO--UR/0449/70/004/004/0780/0133

CIRC ACCESSION NO--AP0135119

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135119

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LIFETIME OF RADIATIVE AND IMPACT RECOMBINATION IN PURE OR DOPED INP WAS EVALUATED THEORETICALLY. THE RESP. LIFETIMES FOR PURE AND DOPED INP, τ_{SUBH} AND τ_{SUBP} FOR THE CASE OF RADIATIVE INTERBAND RECOMBINATION AT LOW EXCITATION LEVELS WERE PLOTTED VS. $1-\tau$. THE MAX. LIFETIME OF PURE INP DISPLAYED AN ABRUPT, ALMOST EXPONENTIAL DECREASE AT ELEVATED TEMPS. DOPED INP DISPLAYED THE REVERSE BEHAVIOR. LIFETIME WAS SLIGHTLY AFFECTED BY TEMP., AND A NEGLIGIBLE DECREASE WAS CHECKED AT LOW TEMP., ATTRIBUTED TO CARRIER CONC. ALTERATIONS. AT ELEVATED TEMPS., WHEN THE INTRINSIC CARRIER CONC. TENDS TO n_{SUBO} VALUES, (10 PRIME10-10 PRIME13 PER CM PRIME3), LIFETIMES OF PURE AND DOPED INP BECOME EQUAL. CURVES WERE PLOTTED ALSO FOR THE TEMP. DEPENDENCE OF IMPACT RECOMBINATION LIFETIME OF PURE AND DOPED INP. THE TEMP. DEPENDENCE WAS MORE ABRUPT THAN EXPONENTIAL, DUE TO THE KNOWN EFFECT OF THE BROADENING OF THE FORBIDDEN GAP. DOPING DECREASES LIFETIME SHARPLY. THE THEORETICALLY EVALUATED LIFETIME DATA IN BOTH CASES WERE COMPARED WITH PREVIOUSLY REPORTED EXPTL. FIGURES (KOVALEVSKAYA, 1968), IN AN EFFORT TO ANALYZE THE INTERBAND RECOMBINATION MECHANISM OF INP. IN THE ABSENCE OF DEFECTS, IN PURE INP CRYSTALS RADIATIVE RECOMBINATION FOLLOWS PREDOMINANTLY A RECOMBINATION AND ATTACHMENT MECHANISM AT ROOM TEMP. AND SLIGHTLY ABOVE.

VACILITY: FIZ.-TEKH. INST. IM. IOFFE, Leningrad, USSR.

UNCLASSIFIED

KOVALEVSKAYA, N. D.

TECHNICAL TRANSLATION

PTIC-MT-22-204-72

ENGLISH TITLE: A Problem of Heat Transfer of Non-Fourier Anomalousity
Viscous Liquids

RUSSIAN TITLE: Odne Zadacha Teploobmena Kofur'Evskikh Anomal' No-
Vyskikh Zhidkostey

AUTHOR: B. N. Borovskii, Z. P. Shul'zhen, N. D. Kovalevskaya

SOURCE: TEPLO - I Masobran v Hen'yulosevskikh Zhidkostyakh,
"Energiya", Moscow 1968

Translated for PTIC by OLCST

NOTICE

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K Hydrobiology

USSR

UDC 59(093.32)

KOVALEVSKAYA, N. M., BEKKER, V. E., and PASTERNAK, F. A., Institute of Oceanology, Academy of Sciences USSR, Moscow

"Biological Studies During the First Voyage of the Scientific Research Ship 'Dmitriy Mendeleev' in the Western Tropical Atlantic"

Moscow, Zoologicheskii Zhurnal, Vol 49, No 3, 1970, pp 478-479

Translation: The new scientific research ship of the Institute of Oceanology, Academy of Sciences USSR, "Dmitriy Mendeleev" left on 21 February 1969 on her first voyage from the port Kaliningrad. The trip lasted 61 days, during which 70 stations were visited covering about 14,900 nautical miles, with one stop at Montserrat and two entries into the ports -- Port-of-Spain (Trinidad) and Gibraltar. The main goal of the voyage was to take instrument readings of the eastward current from the ridge of the Lesser Antilles. Concurrently, biological experiments were carried out, including collection of benthic fauna, fish, and ichthyoplankton, as well as several attempts at artificial fertilization of fish roe and incubation in an aquarium. These studies were conducted by the authors of this paper at 60 stations of the trip.

Fish collection produced about 100 different species belonging to 60 genera
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KOVALEVSKAYA, N. V., et al, Zoologicheskii Zhurnal, Vol 49, No 3, 1970, pp 478-479

and 46 families, and in addition a considerable quantity of fish ova and larvae (determination of quantity was impossible during the voyage). The collection yielded 28 shore types and 68 ocean ones (43 bathy- and mesopelagic and 25 epipelagic). The most diverse are the mesopelagic family Myctophidae (8 genera and 18 species) and those from epipelagic Exocoetidae (6 genera and 11 species). The remaining 44 families were represented by 1-2, or occasionally by 3 species. Quantitatively, the most numerous was the collection of flying fish (Exocoetidae).

The collection of deep sea fish was quite diverse, but most types were represented only by single examples. The only exception were several types of Myctophidae which came to the surface at night and could be relatively easily caught by surface catching equipment. For example, when the ship was stationed at Montserrat Island, about 200 examples of *Diaphus dumerili* and *D. garmani* were caught with dip nets. It is also interesting that real mesopelagic types, which reside during the day at depths of 300-500 m, could be found in large quantities at night at a depth of about 20 m. Finally, it should be noted that these types were caught at one station only in the immediate proximity of the island. All

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KOVALEVSKAYA, N. V., et al, Zoologicheskii Zhurnal, Vol 49, No 3, 1979, pp 478-479

other Myctophidae found at night on the surface were discovered at considerable depths (1000 m and more). These include the only example of *Myctophum selenops*, a species known by only a few examples.

From the zoogeographic point of view, an interesting catch was made at 8° north latitude and 53°16' west longitude -- one example of *Electrona rissoi* (Myctophidae), which is well-known in the eastern Atlantic but not found in the past west of 40° west longitude. Catches of several rare and poorly studied types were also interesting (*Heterophorus ophistoma* [Astronesthidae], *Lepidophanes supralateralis* [Myctophidae] and some others).

Most numerous were catches of epipelagic fish, made at night with electrical illumination, using dip nets and a Savilov pleustonic trawl net; *Oxyporhamphidae* and *Exocoetidae* comprised this group. Most numerous forms in these groups were *Oxyporhamphus micropterus*, *Parexocoetus brachypterus*, *Exocoetus volitans*. *Prognichthys gibbifrons*, *Hirundichthys affinis* and *H. speculiger*. These types, except for *P. brachypterus*, were found at almost all stations, while the latter was found up to the 300 mile limit from the shores.

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KOVALEVSKAYA, N. V., et al, Zoologicheskiy Zhurnal, Vol 49, No 3, 1970, pp 478-479

Roe and larvae of *Oxyporhamphus micropterus* and *O. meristocystis* (the latter only near the Tobago and Barbados Islands) were found in the ichthyoplankton catch. Up to now it was believed that the first -- the oceanic type -- was widely scattered in tropical areas of all three oceans, and the second -- the neumatic -- only in Pacific and Indian oceans. The roe and larvae of *O. micropterus* were caught both near the shore and far away from them, but the largest catch was made at a station northeast of the Guiana shores. In the same region, intensive spawning of one of the most numerous types of flying fish, *Exocoetus volitans*, took place (up to 880 larvae in one 20 min catch with the pleustonic trawl net). In March, 1969, northeast of the Lesser Antilles, these two types did not spawn, and the offspring observed there were most probably carried over by the Guiana and Antilles streams. Spawning of other flying fish was also observed in this region. Northeast of Desirad Island, developing roe of *Cheilopogon furcatus* was found, and at Montserrat Island, running males and females of *Ch. lutkeni* were caught.

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KOVALEVSKAYA, N. V., et al, Zoologicheskii Zhurnal, Vol 49, No 3, 1970, pp 478-479

In recent years (mainly due to the efforts of Soviet expeditions) a systematic quantitative study was carried out of the benthic fauna of the Pacific, Indian and Southern oceans. Charts of quantitative distribution (quite detailed for many regions) were prepared, and some interesting principles were determined for the distribution of benthic fauna in these areas. As paradoxical as it seems, no such studies were carried out in the Atlantic ocean. Currently only isolated data exist on the quantitative distribution of benthos around the shores of Central and South Africa, along the meridian cross section from the shores of Greenland to the equatorial zone, and along the cross section from North America to Bermuda. Therefore, even these unpretentious results, obtained during the first voyage of the scientific research ship "Dmitriy Mendeleev" are quite interesting.

The poorest development of benthic fauna on the meridian cross section mentioned above is found in the southern part of the tropical zone, where it is represented by a single foraminifera. Extreme paucity of benthos was also observed in the northern zone. There the benthos biomass reached only 0.002-0.005 g/m². At the same latitude but somewhat closer to the Antilles ridge islands, at a depth

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of 4600 m we found a considerable increase of the benthos biomass, up to 0.03 g/m², mainly due to vitreous sponges and polychaeta, Aricidae and Maldanidae. Evidently this is due to a slight upwelling in the region of that station.

Several quantitative samples of benthos were collected at the cross section along the ridge of the Antilles Islands. There, at a depth of 1500-2000 m, its biomass was 0.3-1.9 g/m². These indicators, considering the depths and locations of the stations along the north portion of the tropical zone, are considered to be quite high. Even more interesting and actually somewhat unexpected results were obtained along the cross section of the upper and lower parts of the South American continental incline and its foothill zone south of the Orinoco delta. Here a very diversified and rich benthic fauna was found at four stations. At 400 m, the biomass of bivalve mollusks, polychaeta, nematoda and crustaceans reached 34.24 g/m². Lower down the incline, at a depth of 800 m, the benthic fauna becomes poorer, but even here the polychaeta, crustaceans and bivalve mollusks gave a biomass of 25.52 g/m². Even in the middle portion of the incline, at a depth of 1200 m, a dense population of the brittle stars of the

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KOVALEVSKAYA, N. V., et al, Zoologicheskii Zhurnal, Vol 49, No 3, 1970, pp 478-479

Amphiura types were found, which together with the polychaeta, isopoda crabs and bivalve mollusks gave a biomass of 18.24 g/m². At the same station, several examples of pogonofora were found. These are noteworthy data. Expeditions in past years determined the high productivity of the benthos fauna of the continental incline of the Pacific and Atlantic oceans at moderate latitudes. The fact that benthos values for the bathyal zone of the tropical belt obtained by us are fully comparable with those of the continental incline of moderate latitudes, is a very unique phenomenon requiring intensive studies. In the region studied, a distinct stratification of waters is to be expected, as well as a possible deep layer of oxygen minimum. This circumstance, together with the strong shore run-off carrying considerable organic and mineral material, should favor accumulation and rapid preservation of unoxidized organic material in the bottom. Even at the deepest station (4650 m), remote from the shore, terrigenous residues were found, inhabited by relatively rich fauna of polychaeta, oenotera, and sea lilies, with a total biomass of 0.19 grams per square meter.

The study of the benthos of deep sea channels began comparatively recently, but a lot was already accomplished. Ultraabyssal invertebrates were found in almost 7/8

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KOVALEVSKAYA, N. V., et al, Zoologicheskii Zhurnal, Vol 49, No 3, 1970, pp 478-479

all channels of the Pacific Ocean. In this respect the Atlantic Ocean was studied much less than the Pacific Ocean. Before our study in the Puerto Rico channel, one trawling was carried out at a depth of 7000 m, and two at a depth of 6000 m, but to this date the results of these studies have not been published. Therefore, from the trawling test-runs of this voyage, the most valuable is the trawling in the western part of the Puerto Rico channel, at a depth of 6300 m. The trawling yielded more than 25 types of various benthos invertebrates -- polychaeta, bivalva mollusks, and holothurioides (a total of about 80 examples). The almost total absence of isopoda crabs was noteworthy, even though it is a usual component of ultraabyssal communities. Undoubtedly the results of this trawling will turn into a special intensive study.

During our stay at Port-of-Spain, we visited the West Indies University and Fishing Station, and learned about their activities. An exchange of collection and demonstration materials took place.

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Pharmacology and Toxicology

USSR

ALIMOV, R. A., SHUKUROV, A., KOVALEVSKAYA, R. A., and CHERNYSHEV, V. K.,
Tashkent Scientific Research Institute of Roentgenology, Radiology, and
Oncology, Uzbek SSR Ministry of Health

"A Study of the Effects of the NK-5 Compound on the Biological Activity of
Thio-TEPA"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 7, Jul 71, pp 17-19

Abstract: Since most antitumor drugs cause serious injury to the hematopoietic system, an investigation was performed to establish whether the NK-5 compound, administered in conjunction with the antitumor drug Thio-TEPA to young rats with sarcoma-45 transplant, would suppress the untoward effects of Thio-TEPA. Peripheral blood sample analyses performed throughout the test (one month) revealed that the NK-5 compound prevented a drop in leukocyte concentration and increased hemoglobin and erythrocyte concentration. Moreover, these rats were growing significantly faster than the controls. Post-experimental histological examinations revealed small necrotic areas in the sarcoma transplants in rats treated with Thio-TEPA alone. In animals treated with Thio-TEPA and NK-5, the tumors had large necrotic areas in their central

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ALIMOV, R. A., et al., Meditsinskiy Zhurnal Uzbekistana, No 7, Jul 71,
pp 17-19

portions and dystrophic tumor cells in their peripheral portions. It is concluded that the NK-5 compound not only inhibits the undesirable side effects of Thio-TEPA, but also magnifies the antitumor effect of the latter.

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UDC 559.216.2

USSR

KOVALEVSKAYA, T.I., NESTEROVA, S.N., RZHANOV, A.V., SVITASHEV, K.K.

"Study By The Method Of Infrared Spectroscopy Of Multiple Distorted Internal Reflection Of The Structure Of The Transition Layer In The System Germanium--Silicon-Dioxide Film"

Fiz. i tekhn. poluprovodnikov (Physics And Technology Of Semiconductors), 1971, 2, No 9, pp 1720-1724 (from RZh:Elektronika i yeye primeneniye, No 1, Jan 72, Abstract No 1B157)

Translation: The structure of an extremely thin transition layer in the system germanium--SiO₂ film is studied by the method of infrared spectroscopy of multiple distorted total internal reflection. A precise computation is made of the reflection factor in the region of the absorption band of the valence vibrations of the Si-O bonds. The computed and experimental spectra are compared. It is established that the structure of the transition layer is similar to the structure of germanium--silicate glass. Summary.

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FAST SURFACE STATES IN SILANIZED GERMANIUM -U-

AUTHOR--(02)-RZHANOV, A.V., KOVALEVSKAYA, T.I.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 321-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--GERMANIUM, SILANE, SURFACE AREA, CHLORIDE, GAS ABSORPTION,
METAL ETCHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1476

STEP NO--UR/0449/70/004/002/0321/0324

CIRC ACCESSION NO--AP0120263

IDENTIFICATION

2/2 017 UNCLASSIFIED PROCESSING DATE--23 OCT 70
 CIRC ACCESSION NO--AP0120263
 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. SINGLE CRYSTAL (111) ORIENTED N-GE
 SAMPLES WERE ETCHED AND THEN TREATED WITH A DIOXANE SOLN. OF ME SUB2
 SICL SUB2, WHEREBY A HYDROPHOBIC POLYSILOXANE FILM OF 100-500 ANGSTROM
 IS FORMED. THE IR SPECTRA OF TREATED SAMPLES REVEAL A NEW ABSORPTION
 PEAK AT 975 CM PRIME NEGATIVE1 IN THE VICINITY OF THE SI-O BOND
 ABSORPTION PEAKS (1020 AND 1120 CM PRIME NEGATIVE1). THE NEW PEAK IS
 ASSIGNED TO THE GE-O-SI FORMS AND IS FORMED FROM BOND. SAMPLES WITH
 VARIOUS INTENSITIES OF THIS PEAK WERE STUDIED BY THE FIELD EFFECT METHOD
 COMBINED WITH STATIONARY PHOTOCOND. MEASUREMENTS. THE SURFACE POTENTIAL
 Y SUBSIGMA DEPENDENCE OF THE RECOMBINATION RATE S AND OF THE CHARGE OF
 TRAPPED SURFACE PLOTTED. THE Q SUBSS Y SUBS PLOTS ARE EXPONENTIAL
 FUNCTIONS WITH SIMILAR EXPONENTIAL COEFF. BUT WITH SIGNIFICANTLY
 DIFFERENT PREEXPONENTIAL TERMS FOR THE SAMPLES OF VARIOUS INTENSITY IOTA
 OF THE 975 CM PRIME NEGATIVE1 PEAK. IT IS ASSUMED THAT THE
 PREEXPONENTIAL TERM IS PROPORTIONAL TO THE CONCN. OF SURFACE STATES N
 SUBSIGMASIGMA. THE N SUBSIGMASIGMA IOTA PLOT IS LINEAR AND JUSTIFIES
 THIS ASSUMPTION. SILANE TREATMENT OF GE SURFACES INVOLVES A
 SUBSTITUTION OF PART OF THE UNSTABLE O, OH, AND H SUB2 O BONDS WITH THE
 MORE STABLE GE-O-SI BOND. THE TREATMENT IS ESP. EFFECTIVE WHEN CARRIED
 OUT IMMEDIATELY AFTER ETCHING. FACILITY: INST. FIZ. POLUPROY.,
 NOVOSIBIRSK, USSR.

1/2 016
TITLE—N,CHLOROPHOSPHAMIDES —U—

UNCLASSIFIED

PROCESSING DATE--30OCT70

AUTHOR—(03)—MARKOVSKIY, L.N., PINCHUK, A.M., KOVALEVSKAYA, T.V.

CCOUNTRY OF INFO—USSR

SOURCE—ZH. OBSHCH. KHIM. 1970, 40(3), 543-5

DATE PUBLISHED———70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—CHLORINATED ORGANIC COMPOUND, ORGANIC SYNTHESIS, ORGANIC
PHOSPHORUS COMPOUND, AMIDE, CHEMICAL STABILITY

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/0876

STEP NO—UR/0079/70/040/003/0543/0545

CIRC ACCESSION NO--AP0124539

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124539

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CHLORINATION OF (SHOWN ON
MICROFICHE). THE N-ME MEMBERS COULD BE STORED INDEFINITELY AT
20DEGREES; N-BU MEMBERS DECOMP. IN PART DURING DISTN. AND DECOMP. TO A
CONSIDERABLE EXTENT WITHIN 5-6 DAYS. FACILITY: INST. ORG. KHIM.
KIEV, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118

MARKOVSKIY, L. N., PINCHUK, A. M., and KOVALEVSKAYA, T. V., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Addition of N,N-Dichlorophosphamides to Styrene"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1011-1014

Abstract: N,N-Dichloramides of dialkylphosphoric acids readily add to styrene contrary to Markovnikov's rule to form N-chloro-N-2-chloro-phenylethylamides of dialkylphosphoric acids (I). Reduction of the latter with an aqueous solution of sodium bisulfite or gaseous hydrogen chloride at 2-5° gives N-2-chloro-2-phenylethylamides of dialkylphosphoric acids. The latter and I split on the N-P bond under the action of gaseous hydrogen chloride at 50-60° to give 2-chloro-2-phenylethylamine chloride. N-2-Chloro-2-phenylethylamides of dialkylphosphoric acids react with an alcoholic solution of alkali to give 1-dialkoxyposphonyl-2-phenylethylenimines. The latter react with hydrogen chloride or chlorine to open the ethylenimine ring on the nitrogen-secondary carbon atom bond. The authors thank A. V. KIRSANOV for his advice and assistance.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TEMPERATURE FUNCTION OF THE SPECIFIC HEAT AND ELECTRIC RESISTANCE
OF DYSPROSIUM NEAR THE NEEL POINT -U-
AUTHOR-(04)-AMITIN, YE.B., KOVALEVSKAYA, YU.A., RAKHIMENKULOV, F.S.,
PAUKOV, I.YE.
COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 774-80

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TUPIC TAGS--RESISTIVITY, SPECIFIC HEAT, DYSPROSIUM, TEMPERATURE
DEPENDENCE, NEEL TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1968

STEP NO--UR/0181/70/012/003/0774/0780

CIRC ACCESSION NO--AP0105042

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0105042

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS WERE CARRIED OUT OF SP. HEAT AND ELECT. RESISTANCE OF DY CLOSE TO THE NEEL POINT. CONSIDERABLE DEVIATIONS EXIST FROM THE EXPECTED PROPORTIONALITY BETWEEN THE MAGNETIC PART OF SP. HEAT AND THE DERIV. OF ELEC. RESISTANCE WITH TEMP. THE TEMPS. CORRESPONDING TO THE EXTREMES OF THE STUDIED PROPERTIES DO NOT COINCIDE. AN ATTEMPT WAS MADE TO DET. THE FORM OF THE FUNCTION WHICH DESCRIBED THE PECULIARITY OF SP. HEAT, WITHOUT THE CHOICE OF THE NEEL POINT. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CERAMIC ARTICLE OF INTRICATE DESIGN -U-
AUTHOR--(03)-KAGANOV, I.R., KOVALEVSKAYA, Z.V., YELIZAROV, N.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 267,433
REFERENCE--CHRYTIYA, IZOBKLT., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED-----7C
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHEMICAL PATENT, GRAPHITE, SILICON CARBIDE, CERAMIC
TECHNOLOGY, CERAMIC ENGINEERING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--J004/1778 STEP NO--0K/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AAC132044
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AA0132044
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CERAMIC PRODUCTS OF COMPLEX
CONFIGURATION WERE PRODUCED FROM COMPONENTS OF SILICIDIZED GRAPHITE BY
CEMENTING THEM WITH A MIXT. OF SIC AND WATER GLASS IN A 1:1 RATIO. TO
INSURE THE STABILITY OF THE PRODUCTS DURING PROLONGED CONTACT WITH
NONFERROUS METAL MELTS, THE CEMENTED PRODUCTS WERE COVERED WITH A
COATING CONTG. FE FREE ZRSIO SUB4 AND AN ADDITIVE OF 0.5-10PERCENT H
SUB3 SO SUB3 AND WERE FIRED AT GREATER THAN 3000DEGREES.
FACILITY: SCIENTIFIC RESEARCH DESIGN CONSTRUCTION INSTITUTE OF MACHINE
BUILDING TECHNOLOGY.

USSR

UDC: 550.84:553.495

KOVALEVSKIY, A. L.

"Biogeochemical Search for Uranium Deposits"

Moscow, Atomnaya energiya, vol 33, No 1, July 1972, pp 557-562

Abstract: This paper is a theoretical, qualitative study of the bases of the biogeochemical method for locating uranium deposits by examining plants which have absorbed indicator elements of the deposits. A discussion is given of the laws of the accumulation of such element indicators by plants, under which the low efficiency of uranophytometry is explained by the presence of physiological barriers in the plants to increases in uranium concentrations in the soil although there are no analogous barriers to radium. A table is given of groupings of chemical elements according to their limiting concentration in plants, and there is a second table for the basic biogeochemical characteristics of the indicator elements. A method of testing the plants is recommended, and the conditions to be observed for most effective biogeochemical search methods are outlined. Steps for improving search methods which have been ineffectively used in practice are also recommended.

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USSR

UDC 621.370.9:621.395.623

VAKULENKO, A. M., DIVIL'KOVSKIY, I. M., KOVALEVSKIY, D. V., SMIRNOV, N. V.

"The TO-2 Optical Telephone"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 4, "Sovetskoye Radio", 1971, pp 134-136

Abstract: The paper describes the TO-2 telephone system based on a gallium arsenide semiconductor laser of the injection type. The system has a line-of-sight range of about 5 km, which can be increased by separating the transmitting and receiving channels, thus eliminating the beam splitter used in the common-channel transceiver, which introduces a power loss of about 75 percent. The system is designed for simultaneous two-way communication. A working model of the TO-2 system was put on display in the "Physics" pavillion of the Exhibition of Achievements of the National Economy in 1970. The transmitting laser has a threshold current of 30-50 amps, and emits on a wavelength of the order of 0.9 micron. Power consumption is no more than 3.5 W at a supply voltage of 9 V. Two figures, bibliography of three titles.

1/1

Acc. Nr:

AP0036975

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 1, pp 89-94

■ LYMPHOCYTOSIS OF THE SINUSES-AS A PECULIAR REACTION
OF THE LYMPH NODES IN RESPONSE TO THE ANTIGENIC
STIMULATION

Kovalevskiy, G. N.

BCG vaccine and human erythrocytes of 0-group were injected intraperitoneally to male Wistar rats. The efficacy of immunization was checked by intracutaneous PPD testing and by the study of the protein blood fractions and antibodies. Up to 20--25 lymph nodes were examined in each rat. Massive lymphagenic migration of lymphocytes, expressed in acute lymphocytosis of the nodular sinuses was seen already at the early periods. Nonregional nodes were first involved into the process. The source of sinus lymphocytosis are apparently lymphocytes of nonfollicular cortex, mobilization of which was accompanied by focal «devastation» of tissue with exposure of reticular stroma. Apparently, such foci are later repopulated with lymphocytes entering from the blood through the walls of postcapillary venules. Dynamics of sinus lymphocytosis and its interrelationship with the production of globulins and antibodies were studied.

REEL/FRA
TYPE 1001

USSR

UDC 629.78:537.591

KOVALEVSKY, I. V.

Izmereniye Magnitnykh Poley i Plazmy na Kosmicheskikh Apparatakh (Measurement of Magnetic Fields and Plasma in Spacecraft), Moscow, 1973, 270 pp

Moscow, Referativnyy Zhurnal--Raketostroyeniye, No 5, May 73, Abstract No 5.41.123K

Abstract: The book presents a summary and interpretation of the results of direct measurements of the magnetic fields and plasma made in a spacecraft in interplanetary space, in the magnetic sphere of the earth, in the region of interaction of solar plasma fluxes with the geomagnetic field, as well as in the vicinity of the moon and Venus. Data published in 1967 are contained in the book. Data are presented for each spacecraft on launch, orbital parameters, instrumentation (magnetometric equipment, plasma probes), and the basic research results and their interpretation. The book has been organized for plasma physics specialist, specialists in the theory of electromagnetic wave propagation and space radio communications, space physicists and geophysicists. 203 figures, 20 tables, 508 bibliographic references.

1/1

1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TECHNICAL AND ECONOMIC COMPARISON OF ELECTROSLAG AND VACUUM ARC
REMELTING -U-
AUTHOR--(04)-SKLOKIN, N.F., BOYARSHINOV, V.A., KOVALEVSKIY, M.A., VOLKOV,
S.YE.
COUNTRY OF INFO--USSR
SOURCE--METALLURG, FEB. 1970, (2), 29-31
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, MATERIALS, TECH., IND.,
CIVIL AND MARINE ENGR
TOPIC TAGS--ELECTROSLAG MELTING, VACUUM MELTING, VACUUM ARC, STEEL,
ECONOMICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0929 STEP NO--UR/0130/70/000/002/0029/0031
CIRC ACCESSION NO--AP0124590
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124590

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RIVAL MERITS OF THE ELECTROSLAG AND VACUUM ARC REMELTING OF STEELS AND ALLOYS ARE DISCUSSED, CHIEFLY FROM AN ECONOMIC POINT OF VIEW. IN GENERAL IT WOULD APPEAR THAT VACUUM ARC REMELTING IS ABOUT 1.5 TIMES AS EXPENSIVE AS ELECTROSLAG REMELTING, ALTHOUGH FURTHER OPTIMIZATION OF THE EQUIPMENT INVOLVED SHOULD NARROW THE DIFFERENCE. AT THE PRESENT TIME, VACUUM ARC REMELTING IS ONLY RECOMMENDED FOR SPECIAL CASES IN WHICH THE QUALITY OF THE RESULT OUTWEIGHS COST CONSIDERATIONS.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THEORY OF THE VOLUMETRIC DENSIFICATION OF GRAPHITE WITH PYROLYTIC
CARBON -U-
AUTHOR-(03)-KOVALEVSKIY, N.N., ROZAYLIN, M.I., EAKBEROV, I.L.
COUNTRY OF INFO--USSR
SOURCE--KHIM. TVERD. TOPL. 1970, (2), 141-8 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GRAPHITE, PYROLYTIC CARBON, SPECIFIC DENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--2000/1660 STEP NO--UR/04677TC/000/002/0141/0148
CIRC ACCESSION NO--AP0125282
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0125282
ABSTRACT/EXTRACT--(U) GP-D- ABSTRACT. THE DIFFUSION KINETICS OF THE
VOLUMETRIC DENSIFICATION OF GRAPHITE WITH PYROLYTIC C WAS EXAMD. THE
DATA LEADS TO SUFFICIENT ACCURACY IN CALCG. THE CONDITIONS OF
DENSIFICATION OF C GRAPHITE MATERIALS AS A FUNCTION OF THE
CAHRACTERISTICS OF THE ORIGINAL MATERIAL DESIGNATED FOR DENSIFICATION
AND THE PROPERTIES REQUIRED IN THE DENSIFIED MATERIAL. FACILITY:
INST. GORYUCH. ISKOP., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 549.213

K
KOVALEVSKIY, N.N., ROGATYEN, M.I., and FARBEROV, I.L., Institute of Mineral
Fuels

"On the Theory of the Volumetric Compaction of Graphite With Pyrolytic Carbon"

Moscow, Khimiya Tverdogo Topliva, No 2, 1970, pp 141-148

Abstract: The "volumetric" method of compacting artificial graphite with pyrolytic carbon offers significant advantages as regards the physical, thermal, and electrical properties of the product, but it has not been generally adopted owing to the lack of information on the immediate physical processes involved and on the properties of the resultant graphite. The authors summarize recent theoretical and experimental studies relating to the method.

2/2

USSR

UDC: 621.791.3

POZDEYEVA, N. V., CHIBIREVA, V. A., METELKIN, I. I., KOVALEVSKIY, R. Ye.,
PERSHINA, L. K., Moscow

"Soldering of Metallized High-Alumina Ceramics with Metals by Means of Copper-Germanium Solder"

Moscow, Fizika i Khimiya Obrabotki Materialov [The Physics and Chemistry of Materials Processing], No 6, Nov-Dec 73, pp 104-110.

Abstract: Data are presented from a study of the interaction of copper-germanium solder containing from 5 to 10 wt. % germanium with the molybdenum-manganese metallization coating on a high-alumina ceramic, type 22KhS, during the process of soldering with various structural metal alloys. In relationship to the metallization coating, the most active element in combination with copper-germanium solder is nickel, which facilitates rupture of the metallization layer, thus reducing the quality of joints produced. Recommendations are given for the selection of a protective coating for the metallization layer as a function of the structural metal used. If the ceramic is to be soldered to alloys containing nickel, the metallization surface should be protected with a galvanic layer of copper.

1/1

- 80 -

USSR

UDC 539.4

BELYAYEV, V. I., ZINKEVICH, V. I., KOVALEVSKIY, V. N., SKOKOV, P. I.

"Behavior of Certain Metal Materials Under Dynamic Tension"

V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 54-56 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1460)

Translation: Results of tests for strain of cylindrical samples of diameter 5 mm made of AD1 and D16 aluminum alloys, 1Kh18N9T stainless steel, OT4 titanium alloy, and 40Kh, 40KhNMA and 20KhN2A alloyed structural steels are presented. The strain tests were conducted in the velocity range from 10^{-3} to 650 m/sec. The velocity range in which the highest plasticity properties and also the velocity range with a zero value of the plasticity characteristics were determined. Authors abstract.

1/1

Acc. Nr: **AP0046550**

Ref. Code: UR 0216

PRIMARY SOURCE: *Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya*, 1970, Nr 1, pp 72-76

V. Y. KOVAL'SKIY, S. V. LETUNOVA, V. Y. YERMAKOV

**ARTIFICIAL ALTERATION OF BAC. MEGATERIUM ADAPTATION
TO NATURAL SELENIUM CONTENTS IN SOIL**

L. V. Vernadski Institute of Geology and Analytical Chemistry

Cultivation of two *Bac. megaterium* strains (29 and 101) isolated from soils with low selenium contents (Moscow region) in media with higher concentrations of this element (5 g) per 100 cc) causes adaptation of these microorganisms to these concentrations. The adaptation is revealed by a shift of growing cultures regarding higher selenium concentration in contrast to freshly isolated strains. On the other hand *Bac. megaterium* strains 9 and 20 which had been isolated from soils rich in selenium (Tuva SSR) contents were adapted to lower selenium concentrations in the medium.

In the instance of the Tuva strain 8 no shift of the growth maximum relative to low selenium concentrations in the medium could be obtained. The latter organism remains resistant to a decrease of selenium in the medium.

REEL/FRA
19781813

Epidemiology

USSR

UDC 59.626.981.455(470.311)

OLSUF'YEV, N. G., DOBROKHOTOV, E. P., ERMAYEVA, T. N., KOVALENESKIY, M. V.,
and MESHCHERYAKOVA, I. S., Tularemia Laboratory and Laboratory of Medical
Zoology, Division of Natural Focus Infections, Institute of Epidemiology and
Microbiology, Academy of Medical Sciences USSR, Moscow

"Experience of Long-Term Study of a Natural Meadow-Field Tularemia Focus in
Southern Moscow Oblast"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

Abstract: Records were kept of rodent and tick densities, human tularemia out-
breaks, and epizootics in Stupinskiy and part of Podol'skiy Rayon since 1938
(when the 1st human tularemia outbreak was recorded) until 1971. Human outbreaks
followed periodic rodent density increases until 1952, after which time no
cases were reported due to a vaccination program. The principal rodent
(*Microtus arvalis*, *Microtus minutus*, *Apodemus agrarius*, *Arvicola terrestris*) and
tick (*Dermacentor pictus*, *Ixodes ricinus*, rarely *I. trianguliceps*) densities
fluctuated more or less synchronously over about 4-year periods, but maximum
densities decreased with time, particularly after 1963, probably due to improve-
ments in agricultural procedures and consequent reduction of rodent and tick

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USSR

OLSUF'YEV, N. G., et al., Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

habitat. Epizootics continued to be detected however during moderate rodent density increases after 1967. Thus the tularemia focus continued to maintain itself despite agricultural innovations, though outbreaks were highly localized. It is suggested that tularemia agent can survive long periods not only in ticks but also by means of direct transfer from diseased to healthy rodents. Straw stacks left in fields during winter provide concentration areas for rodents and thus help to maintain the focus.

2/2

USSR

UDC 911.3:616.968.25(470.342)

PCHELKINA, A. A., KORENBERG, E. I., ZEMSKAYA, A. A., SUVOROVA, A. G., and
KOVALEVSKIY, Yu. V.

"A Study of the Virus-Carrying Properties of Ixodes persulcatus P. Sch. in
Tickborne Encephalitis Foci of Forests in the Southern European Taiga"

V sb. Vtoroye Aacarologicheskoye soveshchanie. Ch. 2. Tezisy dokl. (Second
Acarological Conference. Part 2. Theses of Reports -- collection of
works) Kiev, "Nauk. dumka," 1970, pp 96-97 (from RZh-Meditsinskaya Geo-
grafiya, No 4, Apr 71, Abstract No 4.36.59)

[No abstract]

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USSR

UDC 911.3.616.981.455(571.12)

DUNAYEVA, T. N., DOBROKHOTOV, B. P., VORONTSOVA, T. A., BERMAN, D. I., and KOVALEVSKIY, Yu. V.

"An Attempt to Define the Distribution of Tularemia in Northern Rayons of Tyumenskaya Oblast"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works) Vyp. 5(15). Saratov, 1970, pp 173-181 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.97)

Translation: Zoological, parasitological, bacteriological, and epidemiological research conducted during 1967 field trips provide evidence about the wide distribution of tularemia in the northern rayons of Tyumenskaya Oblast, all the way to shore areas of the mouth of the Ob River, the foothills of the polar Urals, and the Pur River basin. According to the high percentage of natural immunity among the local population, one can judge the significant level of epidemiological activity of the locl. A discussion is presented of the reasons for the non-correlation of skin allergy test results with tularemia incidence, and the reaction of agglutination with blood serum in the population of the North. Tularemia was first established among reindeer.

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USSR

UDC 599.32

DOBROKHOTOV, B. P., KOVALEVSKIY, Yu. V., ZHUKOV, V. I., and MOSOLOV, L. P.

"The Abundance of Small Rodents in the Fall of 1969 and Prognosis of Their Epizootic Status as Tularemia Vectors in the RSFSR in 1970"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, No 6, 1970, pp 46-55

Abstract: The estimates of rodent populations and forecasts of tularemia epizootics for 1970 are based on reports from all 71 republic, kray, and oblast sanitary-epidemiological stations of the RSFSR that reached the RSFSR Ministry of Health from 10 November to 15 December 1969. Employing the same analytical methods that they used for the 1969 forecasts, which proved to be quite accurate (a total of 53 cases of the disease were recorded among humans, somewhat more than in 1968), the authors predict that 1970 will be one of the mildest in the history of the USSR as far as tularemia epizootics are concerned. Their optimism is based on sharply reduced numbers of rodents due to the unfavorable weather conditions that prevailed throughout most the RSFSR in 1969. If prophylactic measures are taken promptly in the few threatened localities identified, there should be only isolated cases among human beings.

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USSR

UDC 534.86

KOVALGIN, YU. A.

"On the Localization of an Apparent Source of Sound in Time Stereophonics"

V sb. Materialy nauch.-tekhn. konf. Leningr. elektrotekhn. in-ta svyazi.
Vyp. 3 (Materials of the Scientific-Technical Conference of Leningrad Electrical Engineering Institute of Communication. No. 3 -- Collection of Works), Leningrad, 1971, pp 268-273 (from RZh-Fizika, No 3, Mar 72, Abstract No 32h563)

Translation: Subjective-statistical expertise was used to investigate the characteristics of the localization of an apparent sound source in time stereophonics for the case of a symmetric position of the listener relative to the sound-producing units of a two-channel reproduction system. It is shown that the shape of the envelope of the power spectrum of the signal has a considerable effect on the nature of the displacement of the apparent sound source. Resume.

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USSR

UDC 621.791.756:621.747.58

YAKOVLEV, V. F., KOVALKIN, P. I., YEVDOKIMOV, N. I., KOZULIN, M. G., and
SUSHECHUK-SLYUSARENKO, I. I.

"Electroslag Welding of Steel Casting Defects"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 70, p 72

Abstract: A description is given of a technique of electroslag welding and building-up of steel casting defects. Using a water-cooled copper nonconsumable electrode, a slag bath is drawn which is then heated for a period of 15-60 min. During this time, the edges to be welded are heated to 800-1200°C, and under the effect of the heated slag the surface of the aperture is chemically cleaned. For welding the defect, the nonconsumable electrode is replaced by a spatial one which is consumable along the shape of the profile of the welded aperture. The direction of the fed welding wires plays an important role in the initial stage of fusion of the deposited metal.

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USSR

UDC 621.317.443

KOVAL'KO, L. M., SKORODUMOV, S. A., STARIKOV, I. V., TRET'YAKOV, L. M.

"Multichannel Analog Magnetic Measuring System"

Tr. VNIi elektroizmerit. priborov (Works of the All-Union Scientific Research Institute of Electrical Measurement Instruments), 1971, 7, pp 82-90 (from Referativnyy Zhurnal, Metrologiya i izmeritel'naya tekhnika, No 11, Nov 71, Abstract No 11.32.1752)

Translation: The parameters of a magnetic measuring system that is intended for measuring and recording magnetic field strength at ten points up to 3000 oe where the field varies with a frequency up to 30 Hz are given. The operation and characteristics of the field convertor in the form of a Hall transducer excited by an alternating current are described. Static and dynamic errors in the system are analyzed and methods for reducing them are noted.

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UNCLASSIFIED PROCESSING DATE--0900170
TITLE--EFFECT OF P TOLUALDEHYDE ON THE LIQUID PHASE OXIDATION OF P XYLENE
IN THE PRESENCE OF COBALT SALTS -U-
AUTHOR--(05)--ARIKO, N.G., MITSKEVICH, N.I., LASHITSKIY, V.A., BUSLOVA,
M.K., KOVALKOV, M.D.
COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 48-53

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALDEHYDE, OXIDATION, XYLENE, COBALT COMPOUND, CARBON DIOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1992/1886

STEP NO--UR/0204/70/010/001/0048/0053

CIRC ACCESSION NO--AP0112866

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

GRC ACCESSION NO--AP0112866

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ADDN. OF 4.5-10.5 MLE PERCENT P
TOLUALDEHYDE INCREASED THE RATE OF OXIDN. AT 120DEGREES OF P XYLENE
CONTG. 2 TIMES 10 PRIME NEGATIVE3 MOLE-L. CO STEARATE. AS THE AMT. OF
ALDEHYDE WAS INCREASED, EVOLVED CO SUB2 INCREASED LINEARLY, ALDEHYDE
CONTENT REMAINED CONST., AND ACID AND ETHER FORMATION INCREASED UP TO
0.58 MOLE-L. ALDEHYDE ADDED, AND REMAINED CONST. THEREAFTER. TAGGED
ALDEHYDE EXPTS. SHOWED THAT CO SUB2 EVOLUTION OCCURRED BY DECOMPN. OF
PERTOLUIC ACID FORMED BY OXIDN. OF THE ALDEHYDE. USE OF B2H UNDER THE
SAME CONDITIONS ALSO GAVE AN INCREASE IN RATE OF FORMATION OF P TOLUIC
ACID AND CO SUB2; THE FORMER BECAME CONST. AT 0.2 MOLE-L. ALDEHYDE, THE
LATTER AT 0.4. FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

USSR

UDC 621.373:536.531.08(088.8)

AZARKIN, V. A., KOVAL'KOV, V. I.

"Frequency Sensor of Small Deviations of Active Resistances"

Priborostroyeniye. Resp. mezhd. nauch.-tekhn. sb. (Instrument Making. Republic Interdepartmental Scientific and Technical Collection), 1971, No 10, pp 63-68 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 10, Oct 71, Abstract No 10.32.1470)

Translation: A study was made of a method of converting small deviations of active resistances consisting in controlling the frequency of a generator with a frequency dependent RC-circuit by a variable voltage input to the phasing circuit in series with the active resistance and capacitance. This voltage is proportional to the output voltage of the generator and depends on the increment of the measured resistance. A frequency sensor of small deviations of active resistances with linear transformation characteristics was developed and investigated on the basis of this procedure. Expressions are presented for the frequency of the sensor and the conditions of linearity of the conversion functions. The errors of the frequency instability of the sensor are analyzed. An experimental dependence of the conversion functions is presented. The developed sensor is designed for measurement and remote measurement of small

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USSR

AZARKIN, V. A., et al., Priborostroyeniye. Resp. mezhd. nauch.-tekhn. sb.,
1971, No 10, pp 63-68.

deviations of the active resistances and can also be used for conversion of the
nonelectric variables to frequencies which can in one way or another affect the
magnitude of the active resistance. There are 2 illustrations and a 7-entry
bibliography.

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- 178 -

USSR

KOVAL'NOROV, A. F., GOLDOBEEV, B. I.

"The Analogy Factor in a Tube with Local Twisting of the Flow by Blade Vortexers"

Tr. Kazan. Aviats. In-ta, [Works of Kazan Aviation Institute], 1971, Vol 133, pp 37-41. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1B864, by the authors).

Translation: The problem is studied of the correctness of the Reynolds analogy in a twisted flow of fluid in a channel. Experimental studies of heat emission and hydraulic resistance in the tube are performed with blade vortexers with various twisting angles at the entrance to the tube. The results of the studies show that the hydrodynamic theory of heat exchange gives artificially high results in comparison to the experimental values of heat transfer coefficients throughout the range of Reynolds numbers studied. 5 biblio refs.

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USSR

UDC 612.846:12.766.1

NAVAKATYKYAN, G. O., KUNDIYEV, Yu. I., LYSYNA, G. G., PHEZENOV, V. P.,
HRYSHKO, F. I., DERKACH, V. S., KAPSHUK, O. P., KYRYENKO, A. Ye., KARAKASHYAN,
A. N., KOVALOVA, G. I., RATUSHINA, A. M., TOMASHEVCHUK, L. I., NACONIA, A. N.,
and MAYDYKOV, Yu. L., Kiev Institute of the Work Hygiene and Occupational
Diseases, Kiev

"Nervous Emotional Stresses as a Problem of Modern Work Physiology"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 535-546

Abstract: The introduction of machines and automatic control instrumentation into production lines at plants and factories and at many other institutions requires of workers rapid coordination of actions combined with mental activity. The volume of information input which requires a combination of physical and mental ability has been increasing tremendously for the last decade. This has produced nervous and emotional stresses and disturbances in the normal functions of many human organs. Analysis of many workers from various branches of industry as well as people occupied with mental work has shown that modern technology imposes heavy stresses on an individual which are accompanied by abnormal function of the adrenal glands, and hypothalamus, and the hypophyseal and sympatho-adrenal systems. Measurements have shown that corticosteroid blood and urine

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USSR

NAVAKATYKYAN, O. O., et al., Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 535-546

levels exceed the norm by as much as 42-57% in people under heavy stress. Emotional stress with distortion in the function of many systems were more often encountered among the young (17-18 year olds). These malfunctions included the secretion of adrenalin and noradrenalin, and disturbances in hemodynamics. Shifts in physiological functions among different occupational groups under identical stresses occur at different times and are closely related to age. They were more pronounced among older people (31-40 years old). The cardiovascular system occupies a prominent place in labor physiology, and there are many methods and approaches to study it. Some literature methods and those of the authors are described, including instrumentation. Mental work which is accompanied by nervous-emotional stresses influences profoundly the cardiovascular system within a wide range of deviations, including pathological functional disturbances and hypertension. The same is true for other occupations as well. The authors recommend the rational use of working hours and rest periods to avoid overstresses.

2/2

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USSR

UDC 533.9.004.12:546.217

KOVAL'SKAYA, G. A., SEVASM'YANENKO, V. G., SOKOLOVA, I. A., Novosibirsk

"Thermodynamic Properties of Air at 12,000-25,000°K and 0.1-100 atm Considering the Reduction in Ionization Potential"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 15-22.

Abstract: The composition of air is calculated for pressures of 0.1, 1, 10 and 100 atm and temperatures of 12,000-25,000°K, considering Coulomb interactions, resulting in a significant increase in the electron component in comparison with an earlier work. Physically justified analytic expressions are selected, describing the composition produced and thermodynamic properties with satisfactory accuracy. The approximations produced are convenient for the solution of applied problems, since they require no iterations.

1/1

Acc. Nr: **AP0051924**

Ref. Code: **DR 0219**

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol **69**, Nr **2**, pp **41-44**

CONCERNING THE METHOD OF PRODUCING EXPERIMENTAL CHRONICAL
PATHOLOGY OF THE LIVER

K. S. Koval'skaya, M. V. Rudenskaya, A. S. Gorin
Sklifosovsky First-Aid Institute

To elucidate the action of sodium salicylate on the functional and morphological state of the liver, two experimental procedures were employed. In acute experiments, sodium salicylate was administered fractionally into the portal vein. In chronic experiments, the liver was examined after single, double and triple administrations of the agent. Observation was carried out during 2 years after the last administration. As evidenced from these experiments, sodium salicylate induces chronic pathology of the liver with sclerosis, dystrophic alterations and reorganization of the parenchyma. increase in the portal pressure and enlargement of the spleen.

REEL/FRA
19820407

2 kc

USSR

UDC 636.22/28.576.8.097.29

BOLTUSHKIN, A. N., KOVAL'SKAYA, N. G., LUFANDINA, K. N., and STUPNIKOV, V. D.,
Leningrad Veterinary Institute; Leningrad Oblast' Veterinary Laboratory

"Fusariotoxicoses of Cattle"

Leningrad, Mikologiya i Fitopatologiya, Vol 5, No 1, 1971, pp 75-76

Abstract: For a number of years, fusariotoxicoses of cattle that developed as a result of consumption of straw, grain, and stubble infected with *Fusarium* fungi have been observed in the USSR. In 1967-69, fusariotoxicosis of cattle occurred at the Experimental Model Farm Kolozhitsy in Volosovsk Rayon, Leningrad Oblast', after the cattle had been driven to pasture on a harvested rye field. The symptoms and pathological-anatomical changes in the diseased cattle were identical with those observed in cattle upon experimental feeding of grain infected with *Fusarium sporotrichiella*. Symptomatic treatment was applied. *F. graminearum* and *F. oxysporum* were isolated from samples of straw stalks, ears, and rye grains collected from the field and used as feed by the cattle. The degree of infection of the feed with these fungi was 40-100%. The cultures of fungi that were isolated were considered toxic on the basis of lethality for *Paramecia caudata* and the effect on the

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USSR

BOLTUSHKIN, A. N., et al., Mikologiya i Fitopatologiya, Vol. 5, No 1, 1971,
PP 75-76

skin of rabbits of ether extracts of the fungi. Similar symptoms were
shown in 1962 by cattle on the farm in question, but the disease was not
identified then.

2/2

USSR

UDC 615.372:576.851.49].07

SHAPIRO, N. I., VASIL'YEVA, T. G., MOSEKICHEVA, I. V., DUKHINA, M. I.,
KRUGLIKHINA, Z. M., SAZONETS, G. I., OZERETSKOVSKIY, N. A., BALAYAN, V. D.,
and KOVAL'SKAYA, S. Ya., Leningrad Institute of Vaccines and Sera and State
Control Institute of Medical Biological Preparations imeni Tarasevich, Moscow

"Molecular Heterogeneity of Endotoxins Extracted From the Typhoid-Paratyphoid
Group of Bacilli. Report II. Antigenic Structure and Biological Activity of
High and Low-Molecular-Weight Fractions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 35-39

Abstract: By means of sepharose 2B columns, endotoxin extracts from typhoid
(4445) and paratyphoid B (50602) bacilli can be separated into a high-molecular-
weight and a low-molecular-weight fraction. Components of the latter fraction
retain some serological specificity but are nontoxic, exert a low protective
activity, and display no stressor activity. On the other hand, components of
the high-molecular-weight fraction have a full antigenic structure, are highly
immunogenic and toxic, and display pronounced stressor activity. The high-
molecular-weight fraction is the carrier of the biological properties of
typhoid and paratyphoid endotoxins.

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USSR

UDC 669.24:548.4

POPOV, L. YE., TERESHKO, I. V., GORENKO, L. K., KONEVA, N. A., KOZLOV, E. V.,
and KOVALEVSKAYA, T. A., Siberian Physicotechnical Institute imeni V. D.
Kuznetsov and Tomsk Engineering Construction Institute

"Dislocation Structure of Ni_3Al at Different Stages of Deformation"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 2, Feb 73, pp 409-418

Abstract: This study was conducted to study the change in the nature of dislocation structure in intermetallide Ni_3Al with increasing degree of deformation. Alloys with nickel and 22.9 and 24.0 at.% Al were investigated to which deformations of 1-12% were applied. At small degrees of deformation (1-2%) interlaces of dislocations were extended along slip traces and the average distance between slip traces was 8300 Å. The number of interlaces and dislocation density increased with increased deformation. Plastic deformation of Ni_3Al results in the generation of three types of dislocations two of which are inherently located in octahedral planes and one -- cubic planes. In the deformed alloy numerous wide stacking faults are observed when alloy composition is close to stoichiometric and the energy of the stacking faults amounts to 29 erg/cm² for the alloy with 24.0 at.% Al. At high degrees 1/2

(2)

USSR

POPOV, L. YE., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 2, Feb 73,
pp 409-418

of deformation, dislocation interlacings are noted which form a cellular
structure. 9 figures, 22 bibliographic references.

2/2

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USSR

UDC 621.371:551.510.535

KERBLAY, T. S., and KOVALEVSKAYA, Ye. M.

"Focusing a Bundle of Rays in a Three-Dimensional Nonuniform Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tезисы докл. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972, pp 296-298 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A328)

Translation: The focusing/defocusing characteristics of the horizontal nonuniform ionosphere are estimated in comparison with the spherical-symmetrical ionosphere. As the ionosphere model, use is made of a single-layer ionosphere with parabolic ionization distribution over the altitude, and with gradients of electronic concentration along the radio line direction and in the transverse direction. The presence of strong dependence of the focusing characteristics on the direction of the electron concentration gradient is demonstrated. One illustration, bibliography of two.

N. S.

1/1

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1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THE PHYSICO CHEMICAL FOUNDATIONS OF THE APPLICATION OF HIGH
DISPERSED AEROSOLS FOR PEST CONTROL -U-
AUTHOR--(02)-KOVALSKIY, A.A., KOUTSENGIY, K.N.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTOELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 3-12
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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AEROSOL, PEST CONTROL

CONTROL MARKING--NO RESTRICTIONS.

DOCUMENT CLASS--UNCLASSIFIED
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PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114536

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FEATURES OF THE APPLICATION OF HIGH DISPERSED AEROSOLS FOR PEST CONTROL IS DISCUSSED. THE ADVANTAGES OF THIS PEST CONTROL METHOD WAS SHOWN. THE CONCEPT DOSE (THE INTEGRAL OF CONCENTRATION OVER TIME) IS USED TO EXPLAIN THE REDUCTION OF SPECIFIC EXPENSE OF INSECTICIDE WITH THE APPLICATION OF A POWERFUL AEROSOL GENERATOR. SUPPOSING THE COEFFICIENT OF THE TURBULENT DIFFUSION AND WIND ARE CONSTANT, THE DOSE AT VARIOUS DISTANCES FROM THE AEROSOL GENERATOR WAS CALCULATED. THE DOSE WAS ALSO MEASURED IN THE FIELD EXPERIMENTS. THE EXPERIMENTAL DATA ARE IN ACCORDANCE WITH CALCULATE.

FACILITY: INSTITUT KHIMICHESKOY KINETIKI I GORENIYA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SINGLE ELECTROSTATIC LENS FOR FORMING INTENSE ION BEAMS -U-
AUTHOR--(02)-KOVALSKIY, G.A., BUYANKIN, A.A. K
COUNTRY OF INFO--USSR
SOURCE--RADIOTEKHNIKA (ELEKTRONIKA (RADIO AND ELECTRONICS), 1970, NO 2,
PP 368-370
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS
TOPIC TAGS--OPTIC SYSTEM, ION BEAM, OPTIC LENS, ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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STEP NO--UR/0109/10/000/002/0368/1370

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130683

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ION OPTICAL SYSTEM CONSISTING OF AN IMMERSION LENS OF THE PIERCE TYPE TOGETHER WITH SINGLE ELECTROSTATIC LENS HAVING A CENTRAL ELECTRODE OF SPECIAL CONFIGURATION AND AN ADDITIONAL BLOCKING ELECTRODE IS DESCRIBED. THIS SYSTEM MAKES IT POSSIBLE TO OBTAIN CYLINDRICAL ION BEAMS WITH MICROPERVEANCE GREATER THAN UNITY.

UNCLASSIFIED

USSR

UDC 616.61-002.151-022.6-057

KOVAL'SKIY, G. S., VOSTRIKOV, L. A., and ZAKLINKOV, L. G., Khabarovsk Medical Institute and Khabarovskiy Kray Sanitary Epidemiological Station

"Occupational Characteristics of Hemorrhagic Fever With a Renal Syndrome in the Middle Amur Region"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 147-148

Abstract: Hemorrhagic fever with a renal syndrome is transmitted mainly by rodents. Hence persons who work regularly or even briefly in wooded areas and farms are likely to come into contact with these animals, and their excretions and contract the disease. The following groups are particularly endangered: (a) geological prospectors, foresters, etc.; (b) persons engaged in disinfectant work and rodent extermination, biologists and others who check on this work; (c) zoologists, entomologists, and parasitologists and others engaged in studying small wild mammals in the field and in the laboratory; (d) farmhands who take care of cattle and harvest crops; (e) tractor and truck drivers and mechanics who work in rural areas; (f) persons engaged in lumbering and in the procurement, transport, and primary processing of wood.

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Pathology

UDC 616.61-002.151-022.6-008.9

USSR

KONTSEVAYA, N. G., KONSTANTINOV, A. A., SHAPIRO, S. Ye., and KOVAL'SKIY, G. S.,
Khabarovsk Medical Institute

"Some Indices of Protein Metabolism and Vitamin Balance in Patients With Far-Eastern Hemorrhagic Fever With a Renal Syndrome"

Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 4, Jul/Aug 70, pp 376-381

Abstract: A study was made of 269 patients suffering from Far-Eastern hemorrhagic fever with a renal syndrome. During the first 3 weeks of the illness, a high degree of azotemia is present which is caused by the specific tissue processes as well as by the disturbance of kidney function. The increased porosity of vascular walls accounts for the hemorrhagic syndrome. The decomposition of tissue proteins, vomiting, and dehydration which are characteristic of the syndrome are conditioning factors in the extra-renal azotemia. The content of amino acids and proteins in serum is distorted. Loss of water-soluble vitamins C and P is not compensated by their administration, an indication that the condition is endogenous. Oliguria (200-300 ml per day) or even anuria during the first week is followed by polyuria the second week (6,000-8,000 ml), but elimination of urea nitrogen is still below normal.

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USSR

KONTSEVAYA, N. g., et al, Voprosy Meditsinskoy Khimii, Vol 16, No 4, Jul/Aug 70, pp 376-381

It is believed that the disproteinemia, which involves all proteins, tyrosine, tryptophan, xanthurenic acid, and vitamins C and P, is caused by a disturbance in the proteolytic enzyme system, since some distortion remains even during the convalescent period in the fourth week.

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Therapy

USSR

USS 616.61-002.191-001

K
KOVAL'SKIY, G. S., Chair of Infectious Diseases, Khabarovsk Medical Institute

"Principles Underlying the Organization of Treatment of Patients with Hemorrhagic Fever with a Renal Syndrome"

Moscow, Sovetskaya Meditsina, No 2, 1970, pp 131-134

Abstract: Hemorrhagic fever with a renal syndrome (nephrosonephritis) is a common disease in rural areas of the Far East. Patients cannot be given proper treatment in local hospitals because of diagnostic problems and the need for special equipment (e.g., artificial kidney), various tests and personnel to perform and interpret them, trained physicians, etc. It is recommended, therefore, that all cases be promptly and carefully transported to modern regional or metropolitan hospitals using airplanes, helicopters, railroads, or ambulances for this purpose. The dangers of injury en route are much less of a threat to life than those incurred when the patient is treated in a local institution. A study of the incidence of hemorrhagic fever in Khabarovsk Rayon in 1964-1965 revealed a mortality rate of 1.06% for patients brought to hospitals in the city of Khabarovsk, as compared with 3.3% for those treated locally.

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USSR

UDC: 533.95:537.84

KOVALEVSKIY, I. V.

"Measurement of Magnetic Fields and Plasma on Space Probes"

Moscow, Izmereniye magnitnykh poley i plazmy na kosmicheskikh apparatakh (cf. English above), "Nauka", 1973, 270 pp, ill. 1 r. 92 k. (from RZh-Fizika, No 6, Jun 73, abstract No 6G12 K)

Translation: The book constitutes a summary and interpretation of the results of direct measurements of magnetic fields and plasma made on spacecraft in the interplanetary medium, in the earth's magnetosphere, in the region of interaction of solar plasma fluxes with the geomagnetic field, and also in the vicinities of the moon and Venus. The book incorporates data published in 1967. Given for each vehicle are the launch date, orbit parameters, useful lifetime, instrument package (magnetometric equipment, plasma probes), principal research results and their interpretation.

1/1

USSR

UDC 535.36

POLYANSKIY, V. K., KOVAL'SKIY, L. V.

"Scattering of Coherent Radiation by a Rough Surface".

Leningrad, Optika i Spektroskopiya, Vol 31, No 5, 1971, pp 784-787

Abstract: Although a good deal of work has been devoted to the optical characteristics of rough surfaces, it has considered those characteristics for light with a low coherence factor. In view of the development of coherent optics in general and holography in particular, research of the type done in this paper, involving the use of coherent light on rough surfaces, is important. The authors develop a formula to describe the structure of the field of the scattered radiation in a scalar approximation, without taking polarization into account. The result of the theory is compared with the experimental results. It is asserted that the results obtained can be used as a guide for planning holographic experiments. The article is illustrated with photos of the structure of the field formed by the scattering of coherent light when passed through frosted glass.

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1/2 044 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INVESTIGATION OF THE POSSIBILITY OF USING THE HOLOGRAPHY METHOD
WITHOUT A REFERENCE BEAM -U-
AUTHOR-(02)-KOVALSKIY, L.V., POLYANSKIY, V.K.

COUNTRY OF INFO--USSR

SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 20, FEB. 1970, P. 338-341

DATE PUBLISHED----FEB 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HOLOGRAM, LASER BEAM, COHERENT LIGHT

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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0112475

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE POSSIBILITY OF OBTAINING A HOLOGRAM GENERATED IMAGE OF AN ARBITRARY OBJECT, IN THE CASE WHERE THE HOLOGRAM IS FORMED WITHOUT MAKING USE OF A REFERENCE BEAM BY ILLUMINATING THE TRANSPARENCY BY COHERENT LASER LIGHT. THE PROCESS OF FORMATION OF A HOLOGRAM WITHOUT THE USE OF A REFERENCE BEAM IS ANALYZED, AND THE THEORETICAL CONSIDERATIONS ARE FOUND TO BE CONFIRMED BY HOLOGRAMS OBTAINED FOR CONTINUOUS OBJECTS (TRANSPARENCIES) AND OBJECTS CONSISTING OF SEVERAL POINTS. HOLOGRAMS OBTAINED WITHOUT A REFERENCE BEAM, HOWEVER, CANNOT COMPETE WITH RESPECT TO BRIGHTNESS WITH CONVENTIONAL HOLOGRAMS. THEIR USE IS INDICATED ONLY WHEN A REFERENCE BEAM IS NOT AVAILABLE.

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